REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 1-4, 7-34 and 39-42 are presented for consideration. Claims 1, 2, 25, 26, 31-34 and 39-42 are independent. Claims 5, 6 and 35-38 have been canceled without prejudice or disclaimer. Claims 1-4, 7-12, 17-20, 22, 24 and 27 have been amended to clarify features of the subject invention, while claims 39-42 have been added to recite additional features of the subject invention. Support for these changes and claims can be found in the original application, as filed. No new matter has been added.

Claims 25-34, withdrawn from consideration as being directed to non-elected inventions, have been retained in this application in order to preserve Applicant's rights. Applicant requests that the Examiner contact his undersigned representative should it be necessary to cancel these claims in order to advance the subject application to issue.

Applicant notes with appreciation that claims 37 and 38 have been indicated as containing allowable subject matter, and would be allowed if rewritten in independent form. To expedite prosecution, claims 35-38 have been rewritten as new independent claims 39-42. Applicant submits that these new claims incorporate this allowable subject matter. Therefore, claims 39-42 should be deemed allowable at the outset. In addition to these claims being allowable, Applicant submits that independent claims 1 and 2, for example, patentably define features of the subject invention. Therefore, Applicant requests favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 1-14, 17-24, 35 and 36 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,545,746 to Nishi. Claims 15 and 16 were rejected under 35 U.S.C. § 103 as being unpatentable over the Nishi patent in view of U.S. Patent No. 6,222,610 to Hagiwara et al. Applicant submits that the cited art, whether taken individually or in combination, does not teach many features of the present invention as previously recited in independent claims 1 and 2. Therefore, these rejections are respectfully traversed.

Independent claims 1 and 2 recite various aspects of exposure apparatus for performing exposure of patterns of a reticle onto a substrate. These claims recite, among other features, a first housing covering an optics space containing members of an optical system of an optical path of exposing light, a second housing covering a drive space containing driving members, which adjoins the optics space, members transparent to exposing light provided at boundaries of the adjacent first and second housings, and a gas supplier which supplies the interior of the first and second housings with a purging gas.

Independent claim 1 further recites pressure sensors which sense pressures inside respective ones of the first and second housings and a control unit which controls the gas supplier on the basis of outputs from the pressure sensors in such a manner that pressures within the respective first and second housings will obtain respective ones of predetermined pressures.

Independent claim 2 recites differential-pressure sensors which sense differences in pressure between adjacent ones of the first and second housings, and a control unit which controls the gas supplier on the basis of outputs from the differential-pressure sensors in such a

manner that pressures within the respective first and second housings will attain respective ones of predetermined pressures.

Generally speaking, in a case in which an exposure apparatus is divided into a plurality of housings and each housing is purged in order to seal tightly inside the exposure apparatus, atmospheric pressure of each housing is controlled independently. Therefore, members transparent to exposing light provided at boundaries of the adjacent housings can produce a deformation according to the atmospheric pressure difference inside both housings. Consequently, aberration of the exposure light is generated.

The present invention overcomes such drawbacks with conventional devices and makes it possible to control the differential pressure to a predetermined pressure within the respective housings by controlling a purged gas supply. In particular, the present invention makes it possible to prevent generation of aberration of exposure light, even in cases in which the pressure in a plurality of housings is controlled individually.

Applicant submits that the cited art does not teach or suggest such features of the present invention, as recited in independent claims 1 and 2.

The Nishi patent teaches a projection exposure apparatus for a projection optical system that includes first optical members, which have surfaces by which aspheric surface processing is performed and are made of fluorite and second optical members which have spherical or planarized surfaces. This is discussed in more detail in this patent at column 10, lines 29-50.

Applicant submits, however, that the Nishi patent teaches nothing regarding an element that would correspond to the second housing of the present invention recited in independent

claims 1 and 2. In addition, in the Nishi patent, at least a part of the first optical members are placed in an atmosphere of a first gas that is not readily affected by variations in atmospheric conditions. Also, at least a part of second optical members are placed in an atmosphere of a second gas, different from the first gas, and an image-forming characteristic correcting member controls the humidity of a part of the second gas to correct image-forming characteristics of the projection optical system. This is discussed in more detail in the Nishi patent at column 10, lines 50-58. Applicant submits, however, that the Nishi patent does not teach or suggest controlling a gas supplier, which supplies the interior of first and second housings with a purging gas in order to attain predetermined pressures in adjacent first and second housings, in the manner of the present invention recited in independent claims 1 and 2.

Accordingly, Applicant submits that the Nishi patent does not teach or suggest many features of the present invention as recited in independent claims 1 and 2. Applicant further submits that the remaining art cited does not cure the deficiencies noted above with respect to the Nishi patent.

The Hagiwara et al. patent teaches an exposure apparatus for performing supplying-and-exhausting of a high purity nitrogen gas to a sealed chamber containing lenses. The Hagiwara et al. patent, however, does not teach or suggest a plurality of chambers corresponding to the first housing and the second housing in the manner of the present invention recited in independent claims 1 and 2. In addition, that patent does not teach or suggest controlling a gas supplier which supplies the interior of the first and second housings with a purging in order to attain the predetermined pressures in the adjacent first and second housings in the manner of the present

invention recited in those claims. Accordingly, the Hagiwara et al. patent adds nothing to the teachings of the Nishi patent that would render obvious Applicant's present invention as recited in independent claims 1 and 2.

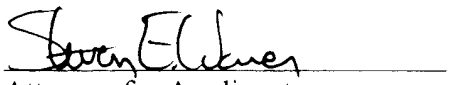
For the foregoing reasons, Applicant submits that the present invention, as recited in independent claims 1, 2 and 39-42, is patentably defined over the cited art.

Dependent claims 3, 4 and 7-24 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

Applicant further submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the objection and rejections set forth in the above-noted Office Action and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,



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